

JPEG 2000 Signature
 File Type
 Compound Image Header
 Data Reference (optional)
 Metadata (optional)
 Page Collection
 Label (optional)
 Metadata (optional)
 Page Label
 Page Table
 Page
 Page Header
 Resolution Box
 Base Color (optional)
 Metadata (optional)
 Layout Object
 Layout Object Header
 Metadata (optional)
 Object Box
 Object Header
 JP2 Header (or Cross-Reference)
 Image Header (or Cross-reference)
 BitsPerComponent (or Cross-reference)
 Color Specification (or Cross-reference)
 Palette (or Cross-reference) (optional)
 Resolution Box
 Object Box
 Object Header
 JP2 Header (or Cross-Reference)
 Image Header (or Cross-reference)
 BitsPerComponent (or Cross-reference)
 Color Specification (or Cross-reference)
 Palette (or Cross-reference) (optional)
 Resolution Box
 Layout Object
 ...
 Layout Object
 Fragment Table
 Fragment List
 Fragment
 Fragment
 Page
 Frag Table
 Page
 Fragment
 Fragment
 Metadata (optional)

FIG. 1

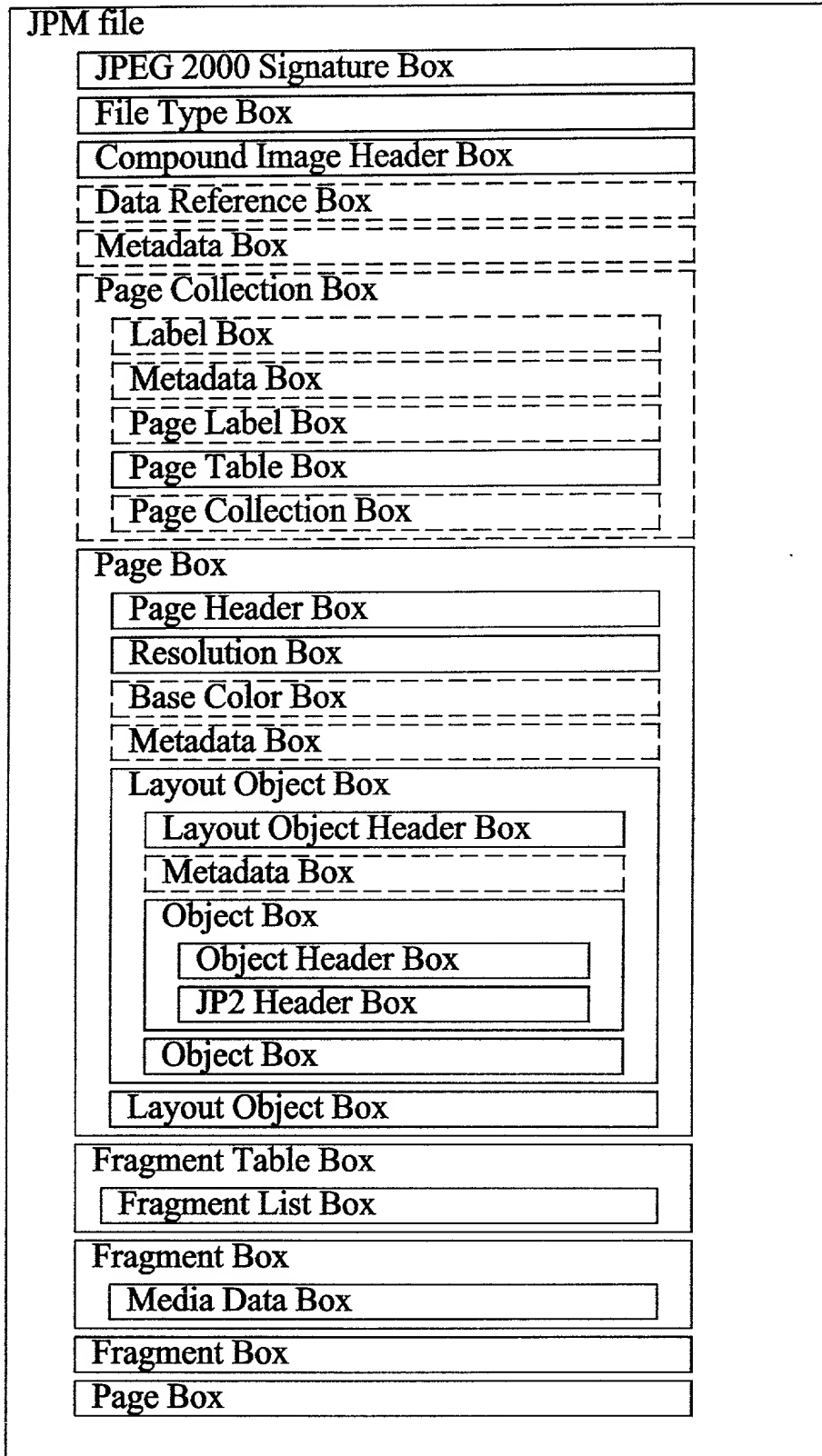


FIG. 2

Box name	Type	Required?	Comments
JPEG 2000 Signature	'JP\040\040' (0x6A50 2020)	Yes	This box uniquely defines the file as being part of the JPEG 2000 family of files.
File Type	'ftyp' (0x6674 7970)	Yes	This box specifies file type, version and compatibility information, including specifying if this file is a conforming JPM file.
Compound Image Header	'mhdr' (0x6D68 6472)	Yes	This box contains general information about the compound image file, such as profile and version.
Data Reference	'dtbl' (0x6474 626C)	No	This box contains a set of pointers to other files or data streams not contained within the JPM file itself.
Page Collection	'pcol'	No	This box groups together the locations of a set of pages so that they are treated as related and associated with each other.
Label	'lbl\040' (0x6C62 6C20)	No	This box specifies a textual label for either a Page Box.
Page Label	'pagl'	No	This box associated a label with each page in a page collection.
Page Table	'pagt' (0x7061 6774)	Yes*	This box gives the locations of the pages in a page collection and enables random access of pages in a file.
Page	'page' (0x7061 6765)	Yes	This box contains all the image data and information needed to image a page.

FIG. 3A

Box name	Type	Required?	Comments
Page Header	'phdr'	Yes	This box describes the properties of a page and gives the number of layout objects in the page.
Resolution	'res\040' (0x7265 7320)	Yes	This box specifies the resolution of a page grid or image.
Base Color	'bcol'	No	This box specifies the color of a page or of an object for which no image data is available.
Layout Object	'lobj' (0x6C6F 626A)	Yes	This box contains the information and image data needed to composite a mask-image object pair.
Layout Object Header	'lhdr'	Yes	This box describes the properties of the layout object and assigns each a unique identifier within the file.
Object	'objc'	Yes	This box contains all the image data and information for one object in a layout object.
Object Header	'ohdr'	Yes	This box describes the properties of an object, identifying it as a Mask or an Image object, and assigns each object a unique identifier within the file.
JP2 Header	'jp2h' (0x6A70 3268)	No	This box contains a series of boxes that contain header-type information about a file containing a single image.
Image Header	'ihdr' (0x7061 6765)	Yes	This box specifies the size of the image and other related fields.

FIG. 3B

Box name	Type	Required?	Comments
Bits Per Component	'bpc' (0x6270 6363)	No	This box specifies the bit depths of the components of an image when the bit depth is not the same for all components.
Color Specification	'colr' (0x636F 6C72)	Yes	This box specifies the colorspace of an image.
Palette Box	'pclr' (0x7063 6C72)	No	This box specifies the palette which maps a single component in index space to a multi-component image in color space.
Default Display Resolution	'resd' (0x7265 7364)	Yes	This box specifies the default grid resolution at which the page or image should be displayed.
Fragment Table	'ftbl' (0x6674 626C)	Yes	This box describes how a codestream has been split up or fragmented and then stored within the file.
Fragment List	'flst' (0x666C 626C)	Yes	This box specifies a list of fragments that make up one particular codestream within the file.
Fragment	'frag'	Yes	This box contains a single fragment of codestream and the identifier of the object which uses it.
Cross-reference	'cref' (0x6372 6566)	No	This box serves specifies that a box found in another location (either within the JPM file or within another file) should be considered as if it was directly contained at this location in the JPM file.

FIG. 3C

Box name	Type	Required?	Comments
Media Data	'mdat' (0x6D64 6174)	Yes	This box contains generic media data, which is referenced through the Fragment box.
Free	'free' (0x6672 6565)	No	This box contains data that is no longer used and may be overwritten when the file is updated.
Stream Identifier	'stid' (0x7063 6C72)	Yes	This box identifies the fragment number (in the sequence of fragments that make up the code-stream) and the object which uses the fragment.

FIG. 3D

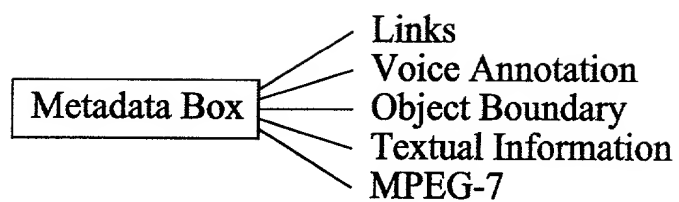


Fig. 4

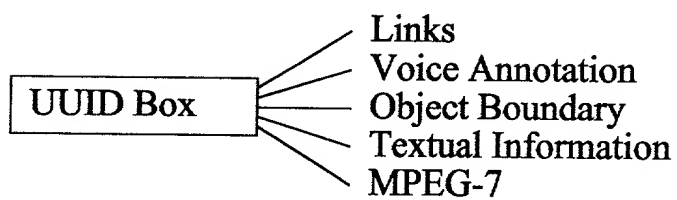


Fig. 5